

SCANNING DEVICE WITH IMPROVED MAGNETIC DRIVE

ABSTRACT OF THE DISCLOSURE

A magnetic drive for providing pivotal motion to a mirror device. The magnetic drive may be used to drive any torsional hinged mirror, but is particularly suitable for driving a high-speed, torsional hinged mirror at its resonant frequency for use as the drive engine of a printer or visual display. According to a first embodiment, a dual axis mirror uses a first pair of torsional hinges to provide the resonant beam sweep and a second pair of torsional hinges to provide high-speed movement orthogonal to the beam sweep to maintain successive images of the sweep parallel to each other. The mass and movement of inertia of the resonant mirror are reduced by relocating permanent magnet sets to the axis of rotation. The reduced mass and movement of inertia allows a significantly higher resonant frequency and corresponding high pivotal speed.